



Mercy Health — St. Vincent Comprehensive Stroke Center provides the highest level of care to critically ill stroke patients. From 2021 to the third quarter of 2022, we have cared for over 1200 stroke patients from all over our region.

Acute Stroke Therapies

Acute treatments for ischemic stroke (non-bleeding) include administering IV clot-busting medication (IV Alteplase or IV Tenecteplase) and Mechanical Endovascular Reperfusion (MER), where a highly trained endovascular neurologist removes the clot in the brain using specialized catheters. These therapies can be done as individual procedures or can be combined depending on the timing of patient presentation. A complication of these treatments can be a hemorrhage (bleeding) into the brain. The hemorrhage rate following IV thrombolytic as documented in the original IV Alteplase trials is less than 6.4%. The complication rate for mechanical endovascular revascularization based on the DEFUSE 3 trial is 7%. For 2021 through August 2022 Mercy Health — St. Vincent Medical Center had a hemorrhagic rate of 2% following IV thrombolytic therapy and a hemorrhagic rate of 7% following mechanical endovascular revascularization.

The National Institute of Neurological Disorders and Stroke rt-PA Stroke Study Group . N Engl J Med 1995; 333:1581-1588 **VOL. 333 NO. 24**

Mechanical Endovascular Reperfusion (MER) outcome measure

The endovascular neurologist grades the outcome after a MER procedure based on the amount of blood flow that is returned to the brain after the clot is removed. A thrombolysis in cerebral infarction (TICI) score (thrombolysis in cerebral infarction) of 2b to 3 is considered a good outcome. Clinical trials report that 76% of patients achieve a score of TICI 2b to 3. Mercy Health — Vincent Medical Center consistently achieved TICI scores of 2b to 3, 95% of the time in 2021 and through the third quarter of 2022.

Thrombectomy for Stroke at 6 to 16 Hours with Selection by Perfusion Imaging: Gregory W. Albers, M.D, et al DEFUSE 3 investigators [February 22, 2018](#) *N Engl J Med 2018; 378:708-718 DOI: 10.1056/NEJMoa1713973*

Neuro Interventional Radiology

Mercy Health — St. Vincent Medical Center endovascular neurologists routinely perform over 200 diagnostic cerebral angiograms per year. The complication rate is expected to

be less than 1%. In 2021 the complication rate was .4% and in 2022 through the third quarter, the complication rate was .8%.

Carotid artery procedures

Vascular surgeons perform procedures to improve blood flow through the carotid arteries. Open surgery to remove plaque from the artery is called carotid endarterectomy (CEA). Blood flow can also be improved by placing a small tube called a stent into the carotid artery using specialized catheters (CAS). Both vascular surgeons and endovascular neurologists perform this procedure. For patients who have stroke symptoms prior to the CEA or CAS procedure, the expected complication rate of stroke or death in 30 days is less than 6%. For patients who are not symptomatic, the 30-day complication rate is less than 3%. In 2021, 80 patients had a CEA or CAS procedure at Mercy Health — St Vincent Medical Center with a complication rate of 3% for symptomatic patients and no complications for those who did not have symptoms. Through the third quarter of 2022, 63 patients had a CEA or CAS procedure with zero complications for patients with and without symptoms.

